

FILEID**DATBAS

DDDDDDDD	AAAAAA	TTTTTTTT	BBBBBBBB	AAAAAA	SSSSSS
DDDDDDDD	AAAAAA	TTTTTTTT	BBBBBBBB	AAAAAA	SSSSSS
DD DD	AA AA	TT	BB BB	AA AA	SS
DD DD	AA AA	TT	BB BB	AA AA	SS
DD DD	AA AA	TT	BB BB	AA AA	SS
DD DD	AA AA	TT	BB BB	AA AA	SS
DD DD	AA AA	TT	BBBBBBBB	AA AA	SSSS
DD DD	AA AA	TT	BBBBBBBB	AA AA	SSSS
DD DD	AAAAAA	TT	BB BB	AAAAAA	SS
DD DD	AAAAAA	TT	BB BB	AAAAAA	SS
DD DD	AA AA	TT	BB BB	AA AA	SS
DD DD	AA AA	TT	BB BB	AA AA	SS
DDDDDDDD	AA AA	TT	BBBBBBBB	AA AA	SSSSSS
DDDDDDDD	AA AA	TT	BBBBBBBB	AA AA	SSSSSS

LL		SSSSSS
LL		SSSSSS
LL		SS
LL		SS
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LL		SSSS
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LLLLLLLL		SSSSSS
LLLLLLLL		SSSSSS

B 14
15-Sep-1986 23:54:33
17-Nov-1858 00:00:00

VAX-11 Bliss-32 V4.0-742
SYSSINPUT:..;

Page 1
(1)

0001 0
0002 0 | Get definitions for SEQULST and friends
0003 0
0004 0
0005 0 LIBRARY
'SYSSLIBRARY:STARLET.L32':

0006 0
0007 0 Version 'V04-000'
0008 0
0009 0 *****
0010 0 *
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0031 0
0032 0
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0035 0
0036 0 **
0037 0
0038 0 MODULE: datbas.req
0039 0
0040 0 FACILITY: linker
0041 0
0042 0 ABSTRACT: data base compile time formats
0043 0
0044 0 HISTORY:
0045 0
0046 0 AUTHOR: T.J. PORTER 01-mar-77
0047 0
0048 0 MODIFICATIONS:
0049 0
0050 0 V03-008 JWT0161 Jim Teague 07-Mar-1984
0051 0 Enlarge cluster name fields -- they take their names
0052 0 from shareable image names, which may now be up to
0053 0 39 characters in length.
0054 0
0055 0 V03-007 ADE0001 Alan D. Eldridge 04-Mar-1984
0056 0 Make CLUSL_GSMATCH its own field rather than multiplexing
0057 0 it between passes in the Linker.
0058 0
0059 0 V03-006 JWT0118 Jim Teague 04-May-1982
0060 0 Added FLG structure. Consists of bit definitions
0061 0 used in flagstack for processing symbols and
0062 0 expressions in pass 2.

D 14
15-Sep-1984 23:54:33
15-Sep-1984 23:03:46

VAX-11 Bliss-32 V4.0-742
\$_255\$DUA28:[LINKER.08']DATBAS.B32;1 Page 3 (1)

0063 0
0064 0
0065 0
0066 0
0067 0
0068 0
0069 0
0070 0
0071 0
0072 0
0073 0
0074 0
0075 0
0076 0
0077 0
0078 0
0079 0
0080 0
0081 0
0082 0

15-Sep-1984 23:54:33
15-Sep-1984 23:03:46

V03-005 JWT0071 Jim Teague 02-Dec-1982
Added NAME and IDENTIFICATION options. Need CTLMSK flag
to indicate that the image id has been set via an option.

V03-004 JWT0061 Jim Teague 22-Oct-1982
Add DCM and DCP structures to aid in the creation
of a debugger image section for debug images.

V03-003 JWT0050 Jim Teague 11-Aug-1982
Add LNK\$V_CLI flag for cli images.

V03-002 JWT0044 Jim Teague 30-Jul-1982
Add word to FDB to save IFI.

V03-001 JWT0033 Jim Teague 25-May-1982
Add FDB\$V_0MDNOBIN flag to indicate that at least one
obj mod in the file had no TIR records.

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0083 0
0084 0
0085 0
0086 0
0087 0
0088 0
0089 0
0090 0
0091 0
0092 0
0093 0
0094 0
0095 0
0096 0
0097 0
0098 0
0099 0
0100 0
0101 0
0102 0
0103 0
0104 0
0105 0
0106 0
0107 0
0108 0
0109 0
0110 0
0111 0
0112 0
0113 0
0114 0
0115 0
0116 0
0117 0
0118 0
0119 0
0120 0
0121 0
0122 0
0123 0
0124 0
0125 0
0126 0
0127 0
0128 0
0129 0
0130 0
0131 0
0132 0
0133 0
0134 0
0135 0
0136 0
0137 0
0138 0
0139 0
    ++
    Functional description:
    This is a require file that defines the layout (at compile time)
    of most of the internal data structures of the linker.
    --
    define the collection cluster list
    ...$CCDDEF
    MACRO    CCDSL_NXTCLU    = 0,0,32,0%;      ! link to next descriptor
    MACRO    CCDSB_NAMLNG   = 4,0,8,0%;      ! length of cluster name
    MACRO    CCDST_NAME     = 5,0,0,0%;      ! cluster name (** NOTE SIZE **)
    LITERAL   CCDSS_NAME    = 39;
    MACRO    CCDSL_PSLST    = 44,0,32,0%;    ! listhead of psects to collect
    MACRO    CCDSB_PROTECT   = 48,0,8,0%;      ! protection flag
    LITERAL   CCDSC_SIZE    = 49;
    LITERAL   CCDSK_SIZE    = 49;
    define the layout of a cluster descriptor
    ...$CLUDEF
    MACRO    CLUSL_NXTCLU   = 0,0,32,0%;      ! next cluster pointer
    MACRO    CLUSL_PREVCLU  = 4,0,32,0%;      ! pointer to previous cluster
    MACRO    CLUSL_FSTFDB   = 8,0,32,0%;      ! first file in this cluster
    MACRO    CLUSL_LSTFDB   = 12,0,32,0%;    ! last file in this cluster
    MACRO    CLUSL_LPSLST   = 16,0,32,0%;    ! List head for local psects
    MACRO    CLUSL_GPSLST   = 20,0,32,0%;    ! List head for global psects
    MACRO    CLUSL_FSTISD   = 24,0,32,0%;    ! first isect descriptor
    MACRO    CLUSL_LSTISD   = 28,0,32,0%;    ! last isect descriptor
    MACRO    CLUSL_CLUOFF   = 32,0,32,0%;    ! offset to base of next contained image
    MACRO    CLUSL_LASTCLU  = 36,0,32,0%;    ! pointer to cluster descriptor of last contained image
    MACRO    CLUSL_SPCRLST  = 40,0,32,0%;    ! Listhead of special g^ references
    MACRO    CLUSL_SHRSYMS  = 44,0,32,0%;    ! number of symbols referenced in this shareable image
    SHRLST and ADRCNT are used before pass 1 to hold the 64-bit binary creation
    date/time of the shareable image symbol table (if image acquired that way)
    :
    MACRO    CLUSL_SHRLST   = 48,0,32,0%;    ! pointer to first symbol referenced in this shareable image
    MACRO    CLUSL_ADRCNT   = 52,0,32,0%;    ! number of .ADDRESSES referencing this cluster
    MACRO    CLUSQ_CREDAT   = 48,0,0,0%;      ! binary creation date/time
    LITERAL   CLUSS_CREDAT  = 8;
    MACRO    CLUSLADRLEFT   = 56,0,32,0%;    ! number slots left in current address block
    LITERAL   $EQLST (CLUSC_GBL, 0, 1
    P 0137 0
    P 0138 0
    (ADRBLOCK, 128)
    );
    ! number of slots per address block

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0140 0 MACRO CLUSL_FSTADR = 60,0,32,0%; ! pointer to first block of .ADDRESS references
0141 0 MACRO CLUSL_USRBASE = 60,0,32,0%; ! base address as specified by user
0142 0 MACRO CLUSL_LSTADR = 64,0,32,0%; ! pointer to last block of .ADDRESS references
0143 0 MACRO CLUSL_FIX1SD = 68,0,32,0%; ! pointer to fixup 1sect descriptor
0144 0 MACRO CLUSL_NISECTS = 72,0,32,0%; ! number of 1sects in this cluster
0145 0 MACRO CLUSL_BASE = 76,0,32,0%; ! base address of cluster
0146 0 MACRO CLUSL_PAGES = 80,0,32,0%; ! pages in this cluster
0147 0 MACRO CLUSL_OWNCLU = 84,0,32,0%; ! pointer to owning cluster if contained in another shr image
0148 0 MACRO CLUSW_FLAGS = 88,0,16,0%; ! cluster flags
0149 0
0150 0 MACRO CLUSV_BASED = 88,0,1,0%; ! base address specified
0151 0 LITERAL CLUSM_BASED = 1^1 - 1^0; ! symbolically
0152 0 MACRO CLUSV_SYMBAS = 88,1,1,0%; ! contains a shareable image
0153 0 LITERAL CLUSM_SYMBAS = 1^2 - 1^1; ! which is position independent
0154 0 MACRO CLUSV_SHRIMG = 88,2,1,0%; ! take private copy of shareable image sections
0155 0 LITERAL CLUSM_SHRIMG = 1^3 - 1^2; ! file is open
0156 0 MACRO CLUSV_PIC = 88,3,1,0%; ! at least one section is wrt/non-crf
0157 0 LITERAL CLUSM_PIC = 1^4 - 1^3; ! cluster is protected
0158 0 MACRO CLUSV_COPY = 88,4,1,0%; ! image does not have fixup section - created under v1 or v2
0159 0 LITERAL CLUSM_COPY = 1^5 - 1^4; ! cluster is internally created
0160 0 MACRO CLUSV_OPEN = 88,5,1,0%; ! cluster is based by user
0161 0 LITERAL CLUSM_OPEN = 1^6 - 1^5; ! i-sect match control
0162 0 MACRO CLUSV_WRT = 88,6,1,0%; ! page fault cluster factor
0163 0 LITERAL CLUSM_WRT = 1^7 - 1^6; ! length of cluster name
0164 0 MACRO CLUSV_PROTECT = 88,7,1,0%; ! cluster name (** NOTE SIZE **)
0165 0 LITERAL CLUSM_PROTECT = 1^8 - 1^7; ! global section match
0166 0 MACRO CLUSV_PREFIXUP = 88,8,1,0%; ! Size of a cluster descriptor
0167 0 LITERAL CLUSM_PREFIXUP = 1^9 - 1^8; ! Size of a cluster descriptor
0168 0 MACRO CLUSV_INTCLU = 88,9,1,0%; ! link to next descriptor
0169 0 LITERAL CLUSM_INTCLU = 1^10 - 1^9; ! length of psect name
0170 0 MACRO CLUSV_USRBASED = 88,10,1,0%; ! psect name (** NOTE SIZE **)
0171 0 LITERAL CLUSM_USRBASED = 1^11 - 1^10; ! define the collect list psect descriptor
0172 0 MACRO CLUSV_SPARE2 = 88,11,1,0%; ! define the collect list psect descriptor
0173 0 LITERAL CLUSM_SPARE2 = 1^12 - 1^11; ! define the collect list psect descriptor
0174 0 MACRO CLUSV_SPARE3 = 88,12,1,0%; ! define the collect list psect descriptor
0175 0 LITERAL CLUSM_SPARE3 = 1^13 - 1^12; ! define the collect list psect descriptor
0176 0 MACRO CLUSV_MATCHCTL = 88,13,3,0%; ! define the collect list psect descriptor
0177 0 LITERAL CLUSM_MATCHCTL = 1^16 - 1^13; ! define the collect list psect descriptor
0178 0
0179 0 MACRO CLUSB_PFC = 90,0,8,0%; ! page fault cluster factor
0180 0 MACRO CLUSB_NAMLNG = 92,0,8,0%; ! length of cluster name
0181 0 MACRO CLUST_NAME = 93,0,0,0%; ! cluster name (** NOTE SIZE **)
0182 0 LITERAL CLUSS_NAME = 39; ! global section match
0183 0 MACRO CLUSL_GSMATCH = 132,0,32,0%; ! Size of a cluster descriptor
0184 0 LITERAL CLUSC_SIZE = 136; ! link to next descriptor
0185 0 LITERAL CLUSK_SIZE = 136; ! length of psect name
0186 0
0187 0 ! define the collect list psect descriptor
0188 0
0189 0 !...$CPDDEF
0190 0
0191 0 MACRO CPDSL_NXTPSC = 0,0,32,0%; ! psect name (** NOTE SIZE **)
0192 0 MACRO CPDSB_NAMLNG = 4,0,8,0%; ! link to next descriptor
0193 0 MACRO CPDST_NAME = 5,0,0,0%; ! length of psect name
0194 0 LITERAL CPDSS_NAME = 31; ! psect name (** NOTE SIZE **)
0195 0 LITERAL CPDSC_SIZE = 36; ! link to next descriptor
0196 0 LITERAL CPD$K_SIZE = 36; ! length of psect name

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0197 0
0198 0
0199 0
0200 0
0201 0
0202 0
0203 0
0204 0
0205 0
0206 0
0207 0
0208 0
0209 0
0210 0
0211 0
0212 0
0213 0
0214 0
0215 0
0216 0
0217 0
0218 0
0219 0
0220 0
0221 0
0222 0
0223 0
0224 0
0225 0
0226 0
0227 0
0228 0
0229 0
0230 0
0231 0
0232 0
0233 0
0234 0
0235 0
0236 0
0237 0
0238 0
0239 0
0240 0
0241 0
0242 0
0243 0
0244 0
0245 0
0246 0
0247 0
0248 0
0249 0
0250 0
0251 0
0252 0
0253 0

    define Debugger symbol table Contribution by Module block
    ...$DCMDEF

    MACRO      DCMSL_DSTOFF  = 0,0,32,0%;    ! offset into DST of this objmod's contribution
    MACRO      DCMSL_DSTLEN  = 4,0,32,0%;    ! length of this objmod's DST contribution
    MACRO      DCMSW_NUMPSC  = 8,0,16,0%;    ! number of psects in this objmod
    LITERAL    DCMSC_SIZE   = 12;
    LITERAL    DCMSK_SIZE   = 12;

    define Debugger symbol table Contrib. Psect block
    ...$DCPDEF

    MACRO      DCPSL_BASE   = 0,0,32,0%;    ! base of psect for this module
    MACRO      DCPSL_LENGTH  = 4,0,32,0%;    ! length of psect for this module
    LITERAL    DCPSC_SIZE   = 8;
    LITERAL    DCPSK_SIZE   = 8;

    define the debug location information block
    ...$DLIDEF

    MACRO      DLISL_LEFT   = 0,0,32,0%;    ! Left tree pointer
    MACRO      DLISL_RIGHT  = 4,0,32,0%;    ! Right tree pointer
    MACRO      DLISW_BAL    = 8,0,16,0%;    ! Balance this node
    MACRO      DLISL_INDEX  = 10,0,32,0%;   ! index of this dli block
    MACRO      DLISL_LOC    = 14,0,32,0%;   ! location counter associated with this index
    LITERAL    DLISC_SIZE   = 18;
    LITERAL    DLISK_SIZE   = 18;

    define the layout of and accessing macros for the file descriptor blocks which
    linked list in the order of specification by the user. the fdb contains an rms
    name block so that the file may be opened by file id after the first time. the
    name block contains a descriptor of the resultant file name string (after all
    defaults have been applied by rms on the first open) so that this complete nam
    error messages and the map. note however that there is also a descriptor of th
    supplied in the command.
    ...$FDBBDEF

    MACRO      FDBSL_NXTFDB = 0,0,32,0%;    ! forward link
    MACRO      FDBSL_OMDLST = 4,0,32,0%;    ! listhead for object module descriptors
    MACRO      FDBSW_LIBLSTLNG = 8,0,16,0%;  ! also used to point to module name list
    MACRO      FDBSB_FILFLGS = 10,0,8,0%;   ! length of the string which is the module
                                                ! name list if this is a library with explicit
                                                ! extraction
    MACRO      FDBSV_NEUUDF = 10,0,1,0%;   ! file specific flags
    LITERAL    FDBSM_NEUUDF = 1^1 - 1^0;    ! a module from library added a new undefined symbo
    MACRO      FDBSV_LIBR  = 10,1,1,0%;   ! library flag bit
    LITERAL    FDBSM_LIBR  = 1^2 - 1^1;

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0254 0 MACRO FDB$V_SHR = 10,2,1,0%; ! shareable image file flag **NOTE** SHR, SELSER mu
0255 0 LITERAL FDB$M_SHR = 1^3 - f^2;
0256 0 MACRO FDB$V_SELSER = 10,3,1,0%; ! selective search file **NOTE** to correspond with
0257 0 LITERAL FDB$M_SELSER = 1^4 - f^3;
0258 0 MACRO FDB$V_OPTION = 10,4,1,0%; ! option file (and input file contained in one)
0259 0 LITERAL FDB$M_OPTION = 1^5 - f^4;
0260 0 MACRO FDB$V_DEBUGER = 10,5,1,0%; ! file contains the debugger
0261 0 LITERAL FDB$M_DEBUGER = 1^6 - f^5;
0262 0 MACRO FDB$V_LIBEXTR = 10,6,1,0%; ! explicit module extraction from library
0263 0 LITERAL FDB$M_LIBEXTR = 1^7 - f^6;
0264 0 MACRO FDB$V_LIBSRCH = 10,7,1,0%; ! library to be searched for undefined symbols
0265 0 LITERAL FDB$M_LIBSRCH = 1^8 - f^7;

0267 0 LITERAL
P 0268 0 SEQULST (FDB$S_GBL,0,1
P 0269 0 .(NEWUDF,)
P 0270 0 .(LIBR,)
P 0271 0 .(SHR,)
P 0272 0 .(SELSER,)
P 0273 0 .(OPTION,)
P 0274 0 .(DEBUGER,)
P 0275 0 .(LIBEXTR,)
P 0276 0 .(LIBSRCH,)
P 0277 0 );
0278 0 MACRO FDB$B_FLAG2 = 11,0,8,0%; ! Second flags word
0279 0
0280 0 MACRO FDB$V_IMGLIB = 11,0,1,0%; ! library is library of shr img stb's
0281 0 LITERAL FDB$M_IMGLIB = 1^1 - f^0;
0282 0 MACRO FDB$V_P1 = 11,1,1,0%; ! file has been processed in pass 1
0283 0 LITERAL FDB$M_P1 = 1^2 - f^1;
0284 0 MACRO FDB$V_0MDNOBIN = 11,2,1,0%; ! file has an obj mod without TIR recs
0285 0 LITERAL FDB$M_0MDNOBIN = 1^3 - f^2;
0286 0
0287 0 MACRO FDB$Q_USRNAMDSC = 12,0,0,0%; ! string descriptor of the user supplied filename
0288 0 LITERAL FDB$S_USRNAMDSC = 8;
0289 0 MACRO FDB$W_USRNAMLEN = 12,0,16,0%; ! length of user supplied name
0290 0 MACRO FDB$L_USRNAMADR = 16,0,32,0%; ! address of user supplied name string
0291 0 MACRO FDB$Q_FILENAME = 20,0,0,0%; ! string descriptor of final file name
0292 0 LITERAL FDB$S_FILENAME = 8;
0293 0 MACRO FDB$W_DEFNAMLEN = 20,0,16,0%; ! used as default name string descriptor before opening
0294 0 MACRO FDB$L_DEFNAMADR = 24,0,32,0%; ! string descriptor for shr img stb library that this module
0295 0 MACRO FDB$Q_LIBNAMDSC = 28,0,0,0%; ! string descriptor for shr img stb library that this module
0296 0 LITERAL FDB$S_LIBNAMDSC = 8;
0297 0 MACRO FDB$W_LIBNAMLEN = 28,0,16,0%; ! internal file id
0298 0 MACRO FDB$L_LIBNAMADR = 32,0,32,0%; ! the rms auxilliary filename block
0299 0 MACRO FDB$W_IFI = 36,0,16,0%; ! **NOTE** To allocate an fdb the size to allocate is
0300 0 MACRO FDB$T_AUXFNB = 38,0,0,0%; ! **NOTE** To allocate an fdb the size to allocate is
0301 0 LITERAL FDB$C_SIZE = 38;
0302 0 LITERAL FDB$K_SIZE = 38;
0303 0
0304 0
0305 0 ! define flag bits for flagstack used in lnk_objpass2
0306 0 ! symbol processing
0307 0
0308 0 !...$FLGDEF
0309 0
0310 0

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0311 0 MACRO   FLG$V_UNDEF = 0,0,1,0%;          ! symbol is undefined
0312 0 LITERAL  FLG$M_UNDEF = 1,1,-1^0;          ! symbol is undefined
0313 0 MACRO   FLG$V_SHRIMGSYM = 0,1,1,0%;       ! symbol is shareable image symbol
0314 0 LITERAL  FLG$M_SHRIMGSYM = 1,2,-1^1;       ! symbol is shareable image symbol
0315 0 MACRO   FLG$V_SHRSYMEXP = 0,2,1,0%;       ! stack value is part of shr img expression
0316 0 LITERAL  FLG$M_SHRSYMEXP = 1,3,-1^2;       ! stack value is part of shr img expression
0317 0
0318 0
0319 0
0320 0 ! define structure of free virual memory descriptors
0321 0
0322 0 ...$FVMDFF
0323 0
0324 0 MACRO   FVMSL_NXTFVM = 0,0,32,0%;        ! next descriptor address
0325 0 MACRO   FVMSL_ADDRESS = 4,0,32,0%;        ! address this descriptor describes
0326 0 MACRO   FVMSL_BYTES = 8,0,32,0%;        ! size of vm this describes
0327 0 LITERAL  FVMSL_SIZE = 12;                  ! size of vm this describes
0328 0 LITERAL  FVMSK_SIZE = 12;                  ! size of vm this describes
0329 0
0330 0 ! Define the fields of the GSMATCH
0331 0
0332 0 ...$GMTDEF
0333 0
0334 0 MACRO   GMTSB_MINORID = 0,0,24,0%;        ! Minor ident is 3 bytes long
0335 0 MACRO   GMTSB_MAJORID = 3,0,8,0%;        ! Major ident is 1 byte
0336 0
0337 0 ! Define ident check data structure
0338 0
0339 0 ...$IDCDDEF
0340 0
0341 0 MACRO   IDCDSL_LEFT = 0,0,32,0%;          ! Left subtree
0342 0 MACRO   IDCDSL_RIGHT = 4,0,32,0%;         ! Right subtree
0343 0 MACRO   IDCDSW_BAL = 8,0,16,0%;          ! Balance
0344 0 MACRO   IDCDSW_FLAGS = 10,0,16,0%;         ! Flags
0345 0
0346 0 MACRO   IDCDSV_BINIDENT = 10,0,1,0%;       ! Binary rather than ASCII ident
0347 0 MACRO   IDCDSV_IDMATCH = 10,1,2,0%;       ! Match control for binary ident
0348 0 MACRO   IDCDSV_ERRSEV = 10,3,3,0%;       ! Error severity for message
0349 0
0350 0 MACRO   IDCDSL_DEFOMD = 12,0,32,0%;       ! Index of defining OMD
0351 0 MACRO   IDCDSL_DEFFDB = 16,0,32,0%;       ! Address of defining FDB
0352 0 MACRO   IDCDSB_IDLNG = 20,0,8,0%;        ! Length of ident
0353 0 MACRO   IDCDSB_OBJLNG = 21,0,8,0%;        ! Length of object type name
0354 0 MACRO   IDCDSL_IDENT = 22,0,32,0%;       ! Binary ident or pointer to ascii idnt
0355 0 MACRO   IDCDSL_OBJNAM = 26,0,32,0%;       ! Pointer to object type name
0356 0 MACRO   IDCDSB_NAMLNG = 30,0,8,0%;       ! Length of entity name
0357 0 MACRO   IDCDSL_NAME = 31,0,0,0%;        ! Start of entity name
0358 0 LITERAL  IDCDSL_SIZE = 31;                  ! Length of fixed part of block
0359 0 LITERAL  IDCDSK_SIZE = 31;                  ! Length of fixed part of block
0360 0
0361 0 ! define the isect generation control table entries
0362 0
0363 0 ...$ISCDEF
0364 0
0365 0 MACRO   ISC$W_MASK = 0,0,16,0%;          ! psect AND mask
0366 0 MACRO   ISC$W_MATCH = 2,0,16,0%;          ! psect attribute match
0367 0 MACRO   ISC$B_CODE = 4,0,8,0%;           ! isect type

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0368 0 MACRO ISC$B_SIZE = 5,0,8,0%;                                ! size of isd
0369 0 MACRO ISC$B_PFC = 6,0,8,0%;                                ! page fault cluster
0370 0 MACRO ISC$B_FLAGS = 7,0,8,0%;                                ! isd flags
0371 0 MACRO ISC$B_MATCTL = 8,0,8,0%;                               ! match control field of isd
0372 0 LITERAL ISC$C_SIZE = 9;
0373 0 LITERAL ISC$K_SIZE = 9;
0374 0
0375 0 ! define the image section descriptor block. The isd that goes in the image hea
0376 0 is appended to this structure
0377 0
0378 0 ...$ISLDEF
0379 0
0380 0 MACRO ISL$L_NXTISD = 0,0,32,0%;                                ! next isd
0381 0 MACRO ISL$L_PREVISD = 4,0,32,0%;                               ! previous isd
0382 0 MACRO ISL$L_BUFDSC = 8,0,0,0%;                                ! image buffer descriptor
0383 0 LITERAL ISL$S_BUFDSC = 8;
0384 0 MACRO ISL$L_BUFADR = 8,0,32,0%;                               ! image buffer address (do not separate
0385 0 MACRO ISL$L_BUFEND = 12,0,32,0%;                               ! end of image buffer
0386 0 MACRO ISL$L_CLUDSC = 16,0,32,0%;                               ! pointer to cluster descriptor
0387 0 MACRO ISL$W_FLAGS = 20,0,16,0%;                                ! flags
0388 0
0389 0 MACRO ISL$V_REPROT = 20,0,1,0%;                                ! section must be reprotected
0390 0 MACRO ISL$V_MEMALO = 20,1,1,0%;                               ! memory allocated for this isect (fixup section onl
0391 0
0392 0 MACRO ISL$B_NEWPRT = 22,0,8,0%;                                ! new protection
0393 0 MACRO ISL$T_HDRISD = 24,0,0,0%;                               ! start of isd that goes to image header
0394 0 LITERAL SEQLST (ISL$C_GBL,0,1
P 0395 0 .(SHRFXD, 1)
P 0396 0 .(PRVFXD, 2)
P 0397 0 .(SHRPIC, 3)
P 0398 0 .(PRVPIC, 4)
P 0399 0 );
0400 0
0401 0 LITERAL ISL$C_SIZE = 24;
0402 0 LITERAL ISL$K_SIZE = 24;
0403 0
0404 0 ! define the linker version array. its content is written to image
0405 0 header.
0406 0
0407 0 ...$LIDDEF
0408 0
0409 0 MACRO LID$W_MAJOR = 0,0,16,0%;                                ! major ident
0410 0 MACRO LID$W_MINOR = 2,0,16,0%;                                ! minor ident
0411 0 LITERAL LID$C_SIZE = 4;
0412 0 LITERAL LID$K_SIZE = 4;                                     ! Size of version array
0413 0
0414 0 ! Define structure for link-time literals
0415 0
0416 0 ...$LITDEF
0417 0
0418 0 MACRO LIT$L_LEFT = 0,0,32,0%;                                ! Left sub-tree pointer
0419 0 MACRO LIT$L_RIGHT = 4,0,32,0%;                               ! Right sub-tree pointer
0420 0 MACRO LIT$W_BAL = 8,0,16,0%;                                ! Balance this node
0421 0 MACRO LIT$B_FLAGS = 10,0,8,0%;                               ! Flags
0422 0
0423 0 MACRO LIT$V_PDL = 10,0,7,0%;                                ! Position dependence level
0424 0 MACRO LIT$V_STAPX = 10,7,1,0%;                               ! value is psect base plus offset

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```

0425 0
0426 0
0427 0
0428 0
0429 0
0430 0
0431 0
0432 0
0433 0
0434 0
0435 0
0436 0
0437 0
0438 0
0439 0
0440 0
0441 0
0442 0
0443 0
0444 0
0445 0
0446 0
0447 0
0448 0
0449 0
0450 0
0451 0
0452 0
0453 0
0454 0
0455 0
0456 0
0457 0
0458 0
0459 0
0460 0
0461 0
0462 0
0463 0
0464 0
0465 0
0466 0
0467 0
0468 0
0469 0
0470 0
0471 0
0472 0
0473 0
0474 0
0475 0
0476 0
0477 0
0478 0
0479 0
0480 0
0481 0

MACRO      LIT$B_INDEX      = 11,0,8,0%;      ! index value of this literal
MACRO      LIT$L_SHRSYM      = 12,0,32,0%;      ! saved shrimpsym
MACRO      LIT$L_SHREXPR      = 16,0,32,0%;      ! saved shrsymexpr
MACRO      LIT$L_VALUE      = 20,0,32,0%;      ! value of this literal
LITERAL      LIT$C_SIZE      = 24;
LITERAL      LIT$K_SIZE      = 24;

! Define general LNK items
!...$LNKDEF

MACRO      LNK$V_IMAGE      = 0,0,1,0%;      ! set if image to be produced
LITERAL      LNK$M_IMAGE      = 1^1 - 1^0;      ! set if an executable image
MACRO      LNK$V_EXE      = 0,1,1,0%;      ! set if shareable image
LITERAL      LNK$M_EXE      = 1^2 - 1^1;
MACRO      LNK$V_SHR      = 0,2,1,0%;      ! set if system image
LITERAL      LNK$M_SHR      = 1^3 - 1^2;
MACRO      LNK$V_SYS      = 0,3,1,0%;      ! set if map to be produced
LITERAL      LNK$M_SYS      = 1^4 - 1^3;
MACRO      LNK$V_MAP      = 0,4,1,0%;      ! set when map file is opened
LITERAL      LNK$M_MAP      = 1^5 - 1^4;
MACRO      LNK$V_MAPOPN      = 0,5,1,0%;      ! set if debugger requested
LITERAL      LNK$M_MAPOPN      = 1^6 - 1^5;
MACRO      LNK$V_DBG      = 0,6,1,0%;      ! set for cross referenced map (8)
LITERAL      LNK$M_DBG      = 1^7 - 1^6;
MACRO      LNK$V_CROS      = 0,7,1,0%;      ! set if long map
LITERAL      LNK$M_CROS      = 1^8 - 1^7;
MACRO      LNK$V_LONG      = 0,8,1,0%;      ! set if brief map
LITERAL      LNK$M_LONG      = 1^9 - 1^8;
MACRO      LNK$V_BRIEF      = 0,9,1,0%;      ! set if system library to be
LITERAL      LNK$M_BRIEF      = 1^10 - 1^9;
MACRO      LNK$V_SYSLIB      = 0,10,1,0%;      ! searched for undefined symbols
LITERAL      LNK$M_SYSLIB      = 1^11 - 1^10;      ! set when about to open an internally
MACRO      LNK$V_INTFIL      = 0,11,1,0%;      ! materialized file for first time
LITERAL      LNK$M_INTFIL      = 1^12 - 1^11;      ! use same bit for options file verification
MACRO      LNK$V_VERIFY      = 0,12,1,0%;      ! during command processing
LITERAL      LNK$M_VERIFY      = 1^13 - 1^12;      ! set when symbol table output is required
MACRO      LNK$V_SYMTBL      = 0,13,1,0%;      ! set when suppression of system library symbols and
LITERAL      LNK$M_SYMTBL      = 1^14 - 1^13;      ! set when suppression of debugger symbols and p-sec
MACRO      LNK$V_SUPSYS      = 0,14,1,0%;      ! set in pass 2 when current record is a debug data
LITERAL      LNK$M_SUPSYS      = 1^15 - 1^14;
MACRO      LNK$V_SUPDBG      = 0,15,1,0%;      ! set when a position independent image
LITERAL      LNK$M_SUPDBG      = 1^16 - 1^15;
MACRO      LNK$V_DBGREC      = 0,16,1,0%;      ! set when traceback enabled
LITERAL      LNK$M_DBGREC      = 1^17 - 1^16;
MACRO      LNK$V_PICIMG      = 0,17,1,0%;      ! image must be made contiguous
LITERAL      LNK$M_PICIMG      = 1^18 - 1^17;
MACRO      LNK$V_TRACE      = 0,18,1,0%;      ! system shareable image(s) enabled
LITERAL      LNK$M_TRACE      = 1^19 - 1^18;
MACRO      LNK$V_CONTIG      = 0,19,1,0%;      ! LNK$V_CONTIG
LITERAL      LNK$M_CONTIG      = 1^20 - 1^19;
MACRO      LNK$V_SYSSH      = 0,20,1,0%;      ! LNK$V_SYSSH

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0482 0 LITERAL LNK$M_SYSSHR = 1^21 - 1^20;
0483 0 MACRO LNK$V_NOPOBUFFS = 0^21,1.0%: ! p0 space not available for rms buffers
0484 0 LITERAL LNK$M_NOPOBUFFS = 1^22 - 1^21;
0485 0 MACRO LNK$V_USRLIB = 0^22,1.0%: ! user default libraries are enabled
0486 0 LITERAL LNK$M_USRLIB = 1^23 - 1^22;
0487 0 MACRO LNK$V_PROTECT = 0^23,1.0%: ! image is protected with /protect (24)
0488 0 LITERAL LNK$M_PROTECT = 1^24 - 1^23;
0489 0 MACRO LNK$V_POIMAGE = 0^24,1.0%: ! image is p0-only image
0490 0 LITERAL LNK$M_POIMAGE = 1^25 - 1^24;
0491 0 MACRO LNK$V_SYSHEADR = 0^25,1.0%: ! system image with header
0492 0 LITERAL LNK$M_SYSHEADR = 1^26 - 1^25;
0493 0 MACRO LNK$V_ALLUNIV = 0^26,1.0%: ! all globals promoted to universal
0494 0 LITERAL LNK$M_ALLUNIV = 1^27 - 1^26;
0495 0 MACRO LNK$V_UBASED = 0^27,1.0%: ! user specified base address of image
0496 0 LITERAL LNK$M_UBASED = 1^28 - 1^27;
0497 0 MACRO LNK$V_LBASED = 0^28,1.0%: ! linker based image due to l^ or w^ shr img referen
0498 0 LITERAL LNK$M_LBASED = 1^29 - 1^28;
0499 0 MACRO LNK$V_CLI = 0^29,1.0%: ! resulting image is a CLI
0500 0 LITERAL LNK$M_CLI = 1^30 - 1^29;
0501 0 MACRO LNK$V_IMGIDOPT = 0^30,1.0%: ! image id set in options file
0502 0 LITERAL LNK$M_IMGIDOPT = 1^31 - 1^30;

0503 0
0504 0 LITERAL
0505 0 SEQULST (LNKSS_, GBL.0,1
0506 0 .(IMAGE,.) set if image to be produced
0507 0 .(EXE,.) set if an executable image
0508 0 .(SHR,.) set if shareable image
0509 0 .(SYS,.) set if system image
0510 0 .(MAP,.) set if map to be produced
0511 0 .(MAPOPN,.) set when map file is opened
0512 0 .(DBG,.) set if debugger requested
0513 0 .(CROS,.) set for cross referenced map
0514 0 .(LONG,.) set if long map
0515 0 .(BRIEF,.) set if brief map
0516 0 .(SYSLIB,.) set if system library to be
0517 0 .(INTFIL,.) ! searched for undefined symbols
0518 0 .(VERIFY,.) ! set when about to open an internally
0519 0 .(VERIF,.) ! materialized file for first time
0520 0 .(SYMTBL,.) ! use same bit for options file verification
0521 0 .(SUPSYS,.) ! during command processing
0522 0 .(SUPDBG,.) set when symbol table output is required
0523 0 .(SUPDBG,.) set when suppression of system library symbols and p-sections
0524 0 .(DBGREC,.) set when suppression of debugger symbols and p-sections
0525 0 .(DBGREC,.) set in pass 2 when current record is a debug data record
0526 0 .(PICIMG,.) set when a position independent image
0527 0 .(TRACE,.) set when traceback enabled
0528 0 .(CONTIG,.) image must be made contiguous
0529 0 .(SYSSHR,.) system shareable image(s) enabled
0530 0 .(NOPOBUFFS,.) ! p0 space not available for rms buffers
0531 0 .(USRLIB,.) user default libraries are enabled
0532 0 .(PROTECT,.) image is protected with /protect
0533 0 .(POIMAGE,.) image is p0-only image
0534 0 .(SYSHEADR,.) ! system image with header
0535 0 .(ALLUNIV,.) ! promote all globals to universal
0536 0 .(UBASED,.) user specified image base address
0537 0 .(LBASED,.) linker was forced to base image
0538 0 .(CLI,.) ! resulting image is a CLI

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: P 0539 0
: P 0540 0
: P 0541 0
: P 0542 0
: P 0543 0
: P 0544 0
: P 0545 0
: P 0546 0
: P 0547 0
: P 0548 0
: P 0549 0
: P 0550 0
: P 0551 0
: P 0552 0
: P 0553 0
: P 0554 0
: P 0555 0
: P 0556 0
: P 0557 0
: P 0558 0
: P 0559 0
: P 0560 0
: P 0561 0
: P 0562 0
: P 0563 0
: P 0564 0
: P 0565 0
: P 0566 0
: P 0567 0
: P 0568 0
: P 0569 0
: P 0570 0
: P 0571 0
: P 0572 0
: P 0573 0
: P 0574 0
: P 0575 0
: P 0576 0
: P 0577 0
: P 0578 0
: P 0579 0
: P 0580 0
: P 0581 0
: P 0582 0
: P 0583 0
: P 0584 0
: P 0585 0
: P 0586 0
: P 0587 0
: P 0588 0
: P 0589 0
: P 0590 0
: P 0591 0
: P 0592 0
: P 0593 0
: P 0594 0
: P 0595 0

; (IMGIDOPT,) ! image id set in options file
LITERAL
$EQLST (LNKSC_, GBL, 0,1
; (NLITS, 256) ! Maximum number of literals
; (MAXPSECTS, 65535) ! Maximum number of psects allowed
;;

! define the layout of a module's p-section contribution data block
!...$MPCDEF

MACRO MPCSL_NXTMPC = 0,0,32,0%; ! forward pointer
MACRO MPCSL_OWNOMD = 4,0,32,0%; ! pointer to module descriptor
MACRO MPCSL_OFFSET = 8,0,32,0%; ! offset of this contribution from base
MACRO MPCSL_LENGTH = 12,0,32,0%; ! length of this contribution
MACRO MPCSB_ALIGN = 16,0,8,0%; ! alignment of this contribution
MACRO MPCSW_PSCNUM = 17,0,16,0%; ! psect number in this module
LITERAL MPCSC_SIZE = 19;
LITERAL MPCSK_SIZE = 19;

! Define the layout of a general binary tree node
!...$NODEDEF

MACRO NODESL_LEFT = 0,0,32,0%; ! pointer to left subtree
MACRO NODESL_RIGHT = 4,0,32,0%; ! pointer to right subtree
MACRO NODESW_BAL = 8,0,16,1%; ! balance this node
LITERAL NODESC_SHORT = 10;
LITERAL NODESK_SHORT = 10; ! length of short node
MACRO NODESL_PTR = 10,0,32,0%; ! pointer to associated data
LITERAL NODESC_LONG = 14;
LITERAL NODESK_LONG = 14; ! length of long node

! Define the layout of an environment data block
!...$NVDDEF

MACRO NVDSL_UDFLINK = 0,0,32,0%; ! forward link in undefined list
MACRO NVDSL_UDBLINK = 4,0,32,0%; ! backward link in undefined list
MACRO NVDSL_SYMTBL = 8,0,32,0%; ! pointer to this env symbol table
MACRO NVDSL_OMDNUM = 12,0,32,0%; ! number of defining module
MACRO NVDSW_FLAGS = 16,0,16,0%; ! flags
MACRO NVDSV_DEF = 16,0,1,0%; ! defined
MACRO NVDSB_NAMLNG = 18,0,8,0%; ! length of environment name
MACRO NVDST_NAME = 19,0,0,0%; ! environment name
LITERAL NVDSC_SIZE = 19;
LITERAL NVDSK_SIZE = 19; ! size of block

! Define the layout of an object module error block (also used to hold
option file text for printing in the map)
!...$OEBDEF

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0596 0 MACRO OEB$L_NXTOEB = 0,0,32,0%; ! pointer to next or 0 if last
0597 0 MACRO OEB$W_BYTCNT = 4,0,16,0%; ! number of text bytes
0598 0 MACRO OEB$T_TEXT = 6,0,0,0%; ! address of text string
0599 0 LITERAL OEB$C_SIZE = 6;
0600 0 LITERAL OEB$K_SIZE = 6; ! Size of fixed part of block
0601 0
0602 0 ! define the layout of an object module descriptor
0603 0
0604 0 !...$OMDDEF
0605 0
0606 0 MACRO OMD$L_NXTOMD = 0,0,32,0%; ! Link to next in file
0607 0 MACRO OMD$L_DLILST = 4,0,32,0%; debug location information listhead for module
0608 0 MACRO OMD$L_OWNFDB = 4,0,32,0%; pointer to owning fdb during pass 1
0609 0 MACRO OMD$L_ALLOC = 8,0,32,0%; module's allocation to memory
0610 0 MACRO OMD$B_RFA = 12,0,0,0%; rfa of module
0611 0 LITERAL OMD$S_RFA = 6;
0612 0 MACRO OMD$L_MODVBN = 12,0,32,0%; ! virtual block number
0613 0 MACRO OMD$W_BYTOFF = 16,0,16,0%; and byte offset
0614 0 MACRO OMD$W_HIP$CT = 18,0,16,0%; highest p-sect number
0615 0 MACRO OMD$B_FLAGS = 20,0,8,0%; module flags
0616 0
0617 0 MACRO OMD$V_NOP$CT = 20,0,1,0%; ! set until a p-section is seen
0618 0 LITERAL OMD$M_NOP$CT = 1^1 - 1^0;
0619 0 MACRO OMD$V_NOBIN = 20,1,1,0%; ! set until binary or debug records in module
0620 0 LITERAL OMD$M_NOBIN = 1^2 - 1^1;
0621 0 MACRO OMD$V_SHRIMG = 20,2,1,0%; ! module is a shareable image **NOTE** SHRIMG and S
0622 0 LITERAL OMD$M_SHRIMG = 1^3 - 1^2;
0623 0 MACRO OMD$V_SEL$ER = 20,3,1,0%; ! set if selective search module **NOTE** to corres
0624 0 LITERAL OMD$M_SEL$ER = 1^4 - 1^3;
0625 0 MACRO OMD$V_MAP$MOD = 20,4,1,0%; ! set if module to be mapped
0626 0 LITERAL OMD$M_MAP$MOD = 1^5 - 1^4;
0627 0 MACRO OMD$V_DEBUGER = 20,5,1,0%; ! this is a module of the debugger
0628 0 LITERAL OMD$M_DEBUGER = 1^6 - 1^5;
0629 0 MACRO OMD$V_P256 = 20,6,1,0%; ! module has more than 256 psects
0630 0 LITERAL OMD$M_P256 = 1^7 - 1^6;
0631 0 MACRO OMD$V_NOENV = 20,7,1,0%; ! set until an environment seen
0632 0 LITERAL OMD$M_NOENV = 1^8 - 1^7;
0633 0
0634 0 MACRO OMD$B_FLAGS1 = 21,0,8,0%; ! more flags
0635 0
0636 0 MACRO OMD$V_E256 = 21,0,1,0%; ! module has more than 256 environments
0637 0 LITERAL OMD$M_E256 = 1^1 - 1^0;
0638 0
0639 0 MACRO OMD$W_HIENV = 22,0,16,0%; ! highest environment assigned
0640 0 MACRO OMD$L_ENVMAP = 24,0,32,0%; Pointer to environment mapping table
0641 0 MACRO OMD$L_OMDNUM = 28,0,32,0%; object module number
0642 0 MACRO OMD$L_ERRTXT = 32,0,32,0%; pointer to first pass 1 error msg
0643 0 MACRO OMD$L_NXTADR = 32,0,32,0%; pointer to next omd with .address
0644 0 MACRO OMD$L_LSTERR = 36,0,32,0%; pointer to last pass 1 error msg
0645 0 MACRO OMD$L_ADRCNT = 36,0,32,0%; Number of .addresses found in pass 2
0646 0 MACRO OMD$B_NAMLNG = 40,0,8,0%; name length
0647 0 MACRO OMD$T_NAME = 41,0,0,0%; module name field (** NOTE SIZE **)
0648 0 LITERAL OMD$S_NAME = 31;
0649 0 MACRO OMD$T_PSCMAP = 72,0,0,0%; ! p-sect mapping table start
0650 0 LITERAL OMD$C_OMDSIZ = 72;
0651 0 LITERAL OMD$K_OMDSIZ = 72;
0652 0 LITERAL

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```

: P 0653 0 SEQULST (OMD$C_GBL,0,1
: P 0654 0     (SIZE,-OMD$C_OMDSIZ+2048)
: 0655 0
: 0656 0
: 0657 0     ! define the psect definition list descriptor
: 0658 0
: 0659 0     ...$PDDDEF
: 0660 0
: 0661 0     MACRO     PDDSL_LEFT      = 0,0,32,0%:           ! pointer to left subtree
: 0662 0     MACRO     PDDSL_RIGHT     = 4,0,32,0%:           ! pointer to right subtree
: 0663 0     MACRO     PDDSW_BAL       = 8,0,16,0%:           ! balance at this node
: 0664 0     MACRO     PDDSW_FLAGS     = 10,0,16,0%:          ! flags set by psect option
: 0665 0     MACRO     PDDSW_FLGMSK   = 12,0,16,0%:          ! mask of flags set/cleared by option
: 0666 0     MACRO     PDDSB_ALIGN     = 14,0,8,0%:           ! alignment set by psect option
: 0667 0     MACRO     PDDSB_NAMLNG   = 15,0,8,0%:           ! length of name
: 0668 0     MACRO     PDDST_NAME      = 16,0,0,0%:           ! psect name
: 0669 0     LITERAL    PDDSC_SIZE     = 16;
: 0670 0     LITERAL    PDDSK_SIZE     = 16;
: 0671 0
: 0672 0     ! define offsets into a p-section mapping table (appended
: 0673 0     to module descriptors) NOTE: This structure is also used in the
: 0674 0     environment mapping table
: 0675 0
: 0676 0
: 0677 0     ...$PMTDEF
: 0678 0
: 0679 0     MACRO     PMTSL_PSCDES   = 0,0,32,0%:           ! pointer to p-section descriptor
: 0680 0     MACRO     PMTSL_SECPMT    = 0,0,32,0%:           ! pointer to secondary psect mapping table
: 0681 0     MACRO     PMTSL_MODCON   = 4,0,32,0%:           ! pointer to module contribution data block
: 0682 0     MACRO     PMTSL_SYMLST   = 4,0,32,0%:           ! forward list of prematurely defined symbols
: 0683 0     LITERAL    PMTSC_SIZE     = 8;
: 0684 0     LITERAL    PMTSK_SIZE     = 8;                  ! size of an entry
: 0685 0
: 0686 0     ! define the layout of a program section descriptor
: 0687 0
: 0688 0     ...$PSCDEF
: 0689 0
: 0690 0     MACRO     PSCSL_LEFT      = 0,0,32,0%:           ! left subtree pointer
: 0691 0     MACRO     PSCSL_RIGHT     = 4,0,32,0%:           ! right subtree pointer
: 0692 0     MACRO     PSCSW_BAL       = 8,0,16,0%:           ! balance this node
: 0693 0     MACRO     PSCSW_FLAGS     = 10,0,16,0%:          ! p-sect flags
: 0694 0
: 0695 0     MACRO     PSC$V_PIC       = 10,0,1,0%:           ! position independent ** these bits must parallel
: 0696 0     LITERAL    PSC$M_PIC       = 1^1 - f^0;
: 0697 0     MACRO     PSC$V_LIB       = 10,1,1,0%:           ! from a shareable image
: 0698 0     LITERAL    PSC$M_LIB       = 1^2 - f^1;
: 0699 0     MACRO     PSC$V_OVR       = 10,2,1,0%:           ! overlaid memory allocation
: 0700 0     LITERAL    PSC$M_OVR       = 1^3 - f^2;
: 0701 0     MACRO     PSC$V_REL       = 10,3,1,0%:           ! relocatable
: 0702 0     LITERAL    PSC$M_REL       = 1^4 - f^3;
: 0703 0     MACRO     PSC$V_GBL       = 10,4,1,0%:           ! global scope
: 0704 0     LITERAL    PSC$M_GBL       = 1^5 - f^4;
: 0705 0     MACRO     PSC$V_SHR       = 10,5,1,0%:           ! shareable
: 0706 0     LITERAL    PSC$M_SHR       = 1^6 - f^5;
: 0707 0     MACRO     PSC$V_EXE       = 10,6,1,0%:           ! executable
: 0708 0     LITERAL    PSC$M_EXE       = 1^7 - f^6;
: 0709 0     MACRO     PSC$V_RD        = 10,7,1,0%:           ! readable

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0710 0 LITERAL PSC$M_RD = 1^8 - 1^7; : writeab.e
0711 0 MACRO PSC$V_WRT = 10,8,1,0%; : vector psect ** end of bits from $GPSDEF
0712 0 LITERAL PSC$M_WRT = 1^9 - 1^8;
0713 0 MACRO PSC$V_VEC = 10,9,1,0%; : p-sec' defined in option file
0714 0 LITERAL PSC$M_VEC = 1^10 - 1^9;
0715 0 MACRO PSC$V_OPTPSC = 10,10,1,0%; : p-sect definition seen in object source
0716 0 LITERAL PSC$M_OPTPSC = 1^11 - 1^10;
0717 0 MACRO PSC$V_USRPSC = 10,11,1,0%; : p-sect is suppressed
0718 0 LITERAL PSC$M_USRPSC = 1^12 - 1^11;
0719 0 MACRO PSC$V_SUPRES = 10,12,1,0%; : p-sect is from a shareable image
0720 0 LITERAL PSC$M_SUPRES = 1^13 - 1^12;
0721 0 MACRO PSC$V_SHRIMG = 10,13,1,0%; : p-sect has been deleted from this cluster and mov
0722 0 LITERAL PSC$M_SHRIMG = 1^14 - 1^13;
0723 0 MACRO PSC$V_DELETED = 10,14,1,0%; : p-sect was from shr image, defined with SGPS
0724 0 LITERAL PSC$M_DELETED = 1^15 - 1^14;
0725 0 MACRO PSC$V_NEWDEF = 10,15,1,0%; : module contribution list
0726 0 LITERAL PSC$M_NEWDEF = 1^16 - 1^15; address of last module contrib. block
0727 0
0728 0 MACRO PSC$L_MPCLST = 12,0,32,0%; owned relocatable symbol list
0729 0 MACRO PSC$L_LSTMPG = 16,0,32,0%; ! base address
0730 0 MACRO PSC$L_SYMLST = 20,0,32,0%; accumulated (if con) / maximum (if ovr) length
0731 0 MACRO PSC$L_BASE = 24,0,32,0%; address of image section descriptor
0732 0 MACRO PSC$L_LENGTH = 28,0,32,0%; address of cluster descriptor
0733 0 MACRO PSC$L_ISECT = 32,0,32,0%; Number of obj. module defined in
0734 0 MACRO PSC$L_CLUDSC = 36,0,32,0%; alignment of p-sect base
0735 0 MACRO PSC$L_OMDNUM = 40,0,32,0%; p-sect name length
0736 0 MACRO PSC$B_ALIGN = 44,0,8,0%; p-sect name (variable)
0737 0 MACRO PSC$B_NAMLNG = 45,0,8,0%; : define record file address (RFA) acces
0738 0 MACRO PSC$T_NAME = 46,0,0,0%; : ...$RFADEF
0739 0 LITERAL PSC$C_SIZE = 46;
0740 0 LITERAL PSC$K_SIZE = 46;
0741 0
0742 0 ! define record file address (RFA) acces
0743 0
0744 0 !...$RFADEF
0745 0
0746 0 MACRO RFASL_VBN = 0,0,32,0%; ! Virtual block number in file
0747 0 MACRO RFASW_OFFSET = 4,0,16,0%; ! Byte offset within block
0748 0 LITERAL
0749 0 P 0749 0 SEQULST (RFASC_GBL,0,1
0750 0 P 0750 0 ;(INDEX,65535) ! Offset = FFFF indicate index
0751 0 ;
0752 0 LITERAL RFASC_LENGTH = 6;
0753 0 LITERAL RFASK_LENGTH = 6; ! Length of RFA pointer
0754 0
0755 0 ! define symbol name block
0756 0
0757 0 !...$SNBDEF
0758 0
0759 0 MACRO SNB$L_COLIST = 0,0,32,0%; ! collision list pointer
0760 0 MACRO SNB$B_NAMLNG = 4,0,8,0%; ! symbol name length
0761 0 MACRO SNB$T_NAME = 5,0,0,0%; ! symbol name
0762 0 LITERAL SNB$C_FXDLEN = 5;
0763 0 LITERAL SNB$K_FXDLEN = 5; ! length of fixed part of symbol name block
0764 0
0765 0 ! define layout of the store pic code ref data block
0766 0

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: 0767 0 !...$SPCRDEF
: 0768 0
: 0769 0 MACRO SPCRSL_LEFT = 0,0,32,0%; ! Left sub-tree pointer
: 0770 0 MACRO SPCRSL_RIGHT = 4,0,32,0%; . right sub-tree pointer
: 0771 0 MACRO SPCRSL_BAL = 8,0,16,0%; ! balance this node
: 0772 0 MACRO SPCRSL_OFFSET = 10,0,32,0%; ! Offset into target image
: 0773 0 MACRO SPCRSL_FIXADR = 14,0,32,0%; ! VA in fixup section assigned
: 0774 0 LITERAL SPCRSC_SIZE = 18; ! Size of an SPCR block
: 0775 0 LITERAL SPCRSK_SIZE = 18;
: 0776 0 !
: 0777 0 ! define layout of the store control table use for store commands in pass 2
: 0778 0
: 0779 0 !...$STOCTLDEF
: 0780 0
: 0781 0 MACRO STOCTL$B_FLAGS = 0,0,8,0%; ! flags byte
: 0782 0
: 0783 0 MACRO STOCTL$VREP = 0,0,1,0%; ! command is repeated store
: 0784 0 LITERAL STOCTL$MREP = 1^1 - 1^0;
: 0785 0 MACRO STOCTL$V_DISPL = 0,1,1,0%; ! command is a displaced store
: 0786 0 LITERAL STOCTL$M_DISPL = 1^2 - 1^1;
: 0787 0 MACRO STOCTL$V_CONMBZ = 0,2,1,0%; ! mbz field is conditional
: 0788 0 LITERAL STOCTL$M_CONMBZ = 1^3 - 1^2;
: 0789 0 MACRO STOCTL$V_MBZBIT = 0,3,5,0%; ! mbz bit field
: 0790 0 LITERAL STOCTL$M_MBZBIT = 1^8 - 1^3;
: 0791 0
: 0792 0 LITERAL
: P 0793 0 SEQLST (STOCTL$C, GBL, 0,1
: P 0794 0 , (MBZBIT, 3) ! shift count to shift into field
: 0795 0 ;
: 0796 0 MACRO STOCTL$B_BYTES = 1,0,8,0%; ! output byte count
: 0797 0 LITERAL STOCTL$C_SIZE = 2;
: 0798 0 LITERAL STOCTL$K_SIZE = 2;
: 0799 0 !
: 0800 0 ! define the symbol table entry format
: 0801 0
: 0802 0 !...$SYMBOLBLK
: 0803 0
: 0804 0 LITERAL
: P 0805 0 SEQLST (SYMSC, GBL, 0,1
: P 0806 0 , (TBLSIZ, 277) ! size of symbol table (should be prime)
: P 0807 0 , (MAXLNG, 31) ! Maximum symbol length
: P 0808 0 , (SHORTNAME, 15) ! Short symbol length
: 0809 0 ;
: 0810 0 MACRO SYMSL_VALUE = 0,0,32,0%; ! symbol value
: 0811 0 MACRO SYMSL_UDFLINK = 0,0,32,0%; which is also forward link in undefined list
: 0812 0 MACRO SYMSL_PSLST = 4,0,32,0%; thread from defining psect
: 0813 0 MACRO SYMSL_UDFBLINK = 4,0,32,0%; which is also backward link in undefined list
: 0814 0 MACRO SYMSW_ENTMSK = 8,0,16,0%; entry point mask
: 0815 0 MACRO SYMSW_FLAGS = 10,0,16,0%; symbol flags
: 0816 0
: 0817 0 MACRO SYMSV_WEAK = 10,0,1,0%; ! Weak symbol ** These MUST parallel $OBJFMT
: 0818 0 LITERAL SYMSM_WEAK = 1^1 - 1^0;
: 0819 0 MACRO SYMSV_DEF = 10,1,1,0%; ! Definition
: 0820 0 LITERAL SYMSM_DEF = 1^2 - 1^1;
: 0821 0 MACRO SYMSV_UNI = 10,2,1,0%; ! Universal
: 0822 0 LITERAL SYMSM_UNI = 1^3 - 1^2;
: 0823 0 MACRO SYMSV_REL = 10,3,1,0%; ! Relocatable

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0824 0	LITERAL	SYMSM_REL	= 1^4 - 1^3;	
0825 0	MACRO	SYMSV_SPARE1	= 10^4.1 0%;	
0826 0	LITERAL	SYMSM_SPARE1	= 1^5 - 1^4;	
0827 0	MACRO	SYMSV_SPARE2	= 10^5.1 0%;	
0828 0	LITERAL	SYMSM_SPARE2	= 1^6 - 1^5;	
0829 0	MACRO	SYMSV_SPARE3	= 10^6.1 0%;	
0830 0	LITERAL	SYMSM_SPARE3	= 1^7 - 1^6;	
0831 0	MACRO	SYMSV_SPARE4	= 10^7.1 0%;	
0832 0	LITERAL	SYMSM_SPARE4	= 1^8 - 1^7;	
0833 0	MACRO	SYMSV_LCLSYM	= 10^8.1 0%;	: local symbol
0834 0	LITERAL	SYMSM_LCLSYM	= 1^9 - 1^8;	
0835 0	MACRO	SYMSV_OPTSYM	= 10^9.1 0%;	: symbol defined by option ** First Linker flag
0836 0	LITERAL	SYMSM_OPTSYM	= 1^10 - 1^9;	
0837 0	MACRO	SYMSV_INTSYM	= 10^10.1 0%;	: internally created symbol
0838 0	LITERAL	SYMSM_INTSYM	= 1^11 - 1^10;	
0839 0	MACRO	SYMSV_SHRIMG	= 10^11.1 0%;	: symbol is from shareable image
0840 0	LITERAL	SYMSM_SHRIMG	= 1^12 - 1^11;	
0841 0	MACRO	SYMSV_REDEF	= 10^12.1 0%;	: symbol is to be redefined
0842 0	LITERAL	SYMSM_REDEF	= 1^13 - 1^12;	
0843 0	MACRO	SYMSV_SUPRES	= 10^13.1 0%;	: suppressed symbol
0844 0	LITERAL	SYMSM_SUPRES	= 1^14 - 1^13;	
0845 0	MACRO	SYMSV_GREF	= 10^14.1 0%;	: symbol has been entered into shr lst
0846 0	LITERAL	SYMSM_GREF	= 1^15 - 1^14;	
0847 0	MACRO	SYMSV_ENTMSK	= 10^15.1 0%;	: has an entry mask
0848 0	LITERAL	SYMSM_ENTMSK	= 1^16 - 1^15;	
0849 0				
0850 0	MACRO	SYMSW_FLAG2	= 12,0,16,0%;	: second flags word
0851 0				
0852 0	MACRO	SYMSV_GSTMISS	= 12,0,1,0%;	: gst miss
0853 0	LITERAL	SYMSM_GSTMISS	= 1^1 - 1^0;	
0854 0	MACRO	SYMSV_CROSREF	= 12,1,1,0%;	: symbol has been cross referenced
0855 0	LITERAL	SYMSM_CROSREF	= 1^2 - 1^1;	
0856 0	MACRO	SYMSV_REREL	= 12,2,1,0%;	: symbol needs to be made relocatable
0857 0	LITERAL	SYMSM_REREL	= 1^3 - 1^2;	
0858 0				: when it is redefined
0859 0				
0860 0	MACRO	SYMSB_DATYP	= 14,0,8,0%;	: data type
0861 0	MACRO	SYMSB_NAMLNG	= 15,0,8,0%;	: symbol name length
0862 0	MACRO	SYMSL_NEUVAL	= 16,0,32,0%;	: re-definition value (set in pass 2, used in Lnk\$Symtblout)
0863 0	MACRO	SYMSL_OFFSET	= 16,0,32,0%;	: offset of this symbol into shareable image (set in Lnk\$Vma
0864 0				: symbol will either be redefined or be in another image, but not both)
0865 0	MACRO	SYMSL_OMDNUM	= 20,0,32,0%;	: owning obj module number
0866 0	MACRO	SYMSL_VALDATA	= 24,0,32,0%;	: pointer to argument validation data
0867 0	MACRO	SYMSL_SHRLNK	= 28,0,32,0%;	: pointer to next symbol this shareable image
0868 0	MACRO	SYMSL_CLUDSC	= 32,0,32,0%;	: pointer to cluster descriptor of owning cluster
0869 0	LITERAL	SYMSC_SIZE	= 36;	
0870 0	LITERAL	SYMSK_SIZE	= 36;	

Library Statistics

File	Symbols			Pages Mapped	Processing Time
	Total	Loaded	Percent		
\$255\$DUA28:[SYSLIB]STARLET.L32;1	9776	4	0	581	00:01.0

COMMAND QUALIFIERS

: BLISS/LIST=LISS:DATBAS/LIBRARY=LIBS:DATBAS SYSSINPUT+LIBS:DATBAS.B32

: Run Time: 00:13.7
: Elapsed Time: 00:45.5
: Lines/CPU Min: 3824
: Lexemes/CPU-Min: 42074
: Memory Used: 121 pages
: Library Precompilation Complete

0215 AH-BT13A-SE
VAX/VMS V4.0

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REQ

ISGENC
REQ

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